

REMARKS

Reconsideration of the rejections contained in the Office Action is respectfully requested. By this amendment claims 1 and 8-9 have been amended and new claim 16 has been submitted. Currently, claims 1-16 are pending in this application.

New claim 16

When reviewing the claims of this application, applicants noticed that the application contained an unnumbered claim interposed between original claims 4 and 5. It appears that this claim was inadvertently not given a number when the application was originally submitted. Accordingly, applicants have now numbered this previously unnumbered claim as new claim 16. Consideration of this claim on the merits is respectfully requested.

Rejection under 35 USC 101

The Examiner rejected claims 1-6 under 35 USC 101 because, for a claim to be statutory, the claim must result in useful, concrete and tangible result. The Examiner stated that the claim doesn't say what happens after the reading takes place or the usefulness of this reading. Specifically, the Examiner stated that the claim doesn't indicate the result of the method.

Applicants have amended claim 1 to recite that the method includes the step of "reading the first counter in response to setting of the first ripeness indicator to determine a value of the first counter, the first counter containing information associated with a statistic of traffic being handled by the network device." Reading a counter to learn the value of the counter is a concrete and tangible result. Specifically, claim 1 recites that the first counter contains information associated with a statistic of traffic being handled by the network device. Claim 1 recites that the method reads the counter to determine a value of the first counter. This is a concrete and tangible result. Accordingly, claim 1 is believed to be statutory under 35 USC 101.

Claim objections

The Examiner objected to claim 9. Applicants have amended this claim to overcome the objection.

Rejection under 35 USC 102

Claims 1-9 and 15 were rejected under 35 USC 102 as anticipated by Sumida (U.S. Patent No. 4,912,703). This rejection is respectfully traversed in view of the amendments to the claims and the following arguments.

This application relates to a method for selectively reading counter information in a network element. As described by applicants in the background section (see e.g. page 1, lines 19-32) a network element may need to maintain many statistics on various aspects of the traffic that is passing through the network element. Each of these statistics will have a separate counter. Since counters are limited in size by the hardware that is used to implement the network element, the counters need to be read periodically, such as once every .01 second. Reading a large number of counters 100 times per second is a large amount of overhead for the network element processor.

Applicants were thus seeking to find a way to alter the statistics gathering paradigm to reduce the overhead associated with gathering information from counters. (Specification at page 2, lines 7-9). To do this, applicants proposed to use ripeness indicators to indicate when a counter had collected a particular quantity of data. Essentially, applicants realized that some of the counters being read were not in danger of overflowing. Thus, applicants proposed to not read those counters until they had accumulated sufficient data. The ripeness indicators were used to signal to the network element that the counter should be read and relate to the content in the counter. In this way, the network element is not required to read all of the counters on a fixed timetable, but rather can read counters as they get close to overflowing. Since the network element is not reading all of the counters on a fixed time schedule, the use of ripeness indicators is able to reduce the processing overhead associated with collecting information from the counters. (See e.g. specification at page 2, lines 12-21).

Sumida teaches a broadcast data transmission station that includes a traffic amount computation means (meter) that is connected to the transmission line to measure the amount of traffic being transmitted on a line during a unit transmission period. (Col. 4, lines 12-18). The traffic computation means may include several counters to measure the amount of traffic that was transmitted during sampling periods that may be shorter than the unit time. (Col. 4, lines 25-29). The broadcast data transmission station measures traffic sent to each of the regions during

each sampling period, and then sums the partial traffic numbers to determine how much traffic was broadcast. (Sumida at Col. 4, lines 34-39).

Sumida thus computes the amount of traffic (referred to by Sumida as the “Traffic Amount number N_t ” see Sumida at Col. 4, lines 42-44) by adding up the amount of traffic that was handled by the network element during a unit time period such as during the preceding second. Sumida has two ways of measuring this – by looking at only the number of transmission frames that were transmitted during the preceding unit time (Sumida at col. 4, lines 52-55) or by looking at both the number of frames and the size of the frames that were transmitted during the preceding unit time (Sumida at Col. 5, lines 1-4).

The term “traffic amount number” in Sumida, thus refers to the amount of traffic that has been transmitted by the network element in the preceding unit of time. This is a traffic statistic value which is based on the summation of counters. Essentially, Sumida, like the admitted prior art (see Specification at page 2, line 1-3) reads the counters on a fixed time schedule.

The Examiner has taken the position that Sumida teaches a method of selectively reading counter information. Applicants respectfully traverse this assertion. Sumida does not read the counters selectively, but rather reads them at preset points in time. Since the counters are required to be read to determine how much traffic was handled by the network element in the preceding time unit, Sumida does not read the counters “selectively” as they fill up, but rather reads them every second or other time period depending on the unit time interval.

In the Office Action, the Examiner has made the following correlations:

Claim limitation	Sumida
setting a first ripeness indicator	predetermined time associated with a first counter i.e. traffic amount counter when the first counter reaches a particular value i.e. predetermined limit
reading the first counter in response to setting of the first ripeness indicator	Abstract lines 2-9

Essentially, if applicants have understood the rejection correctly, it appears that the Examiner has equated the term “ripeness indicator” with a timer value which indicates that a predetermined time period has ended. Thus, the Examiner concludes that since Sumida reads the

value of the counter when the timer expires, that this reads on the claimed step of “reading the first counter in response to setting of the first ripeness indicator.”

Applicants proposed to count statistics using counters and, when a particular threshold unrelated to time was reached, such as the counter was half full, the counter would set a bit or other type of flag to cause it to be read. (See Specification page 12, line 12 to page 13, line 14) In the specification, applicants state that a “ripeness indicator” “is used to signal to the network device when one or more counters has met or exceeded a predetermined value.” Specification at page 2, lines 15-16. Thus, the term “ripeness indicator” specifies when a counter has met or exceeded a predetermined value and relates to the content of the counter itself. Since it is not possible to know whether the value of a counter has met or exceeded a predetermined value by looking at a clock, a clock by itself cannot be a “ripeness indicator.” Specifically, since applicants define the term “ripeness indicator” as relating to the value of one or more counters, and since a clock cannot give the same information, the fact that Sumida discloses using a clock to periodically read counters does not correspond to using “ripeness indicators.”

To clarify the fact that the ripeness indicators are associated with the value of the counters themselves, applicants have amended claim 1 to recite that the first ripeness indicator is “associated with a value of a first counter, the first ripeness indicator indicating that a value of the first counter has reached a particular value.” The predetermined time period of Sumida does not teach or suggest this concept. Accordingly, applicants respectfully request that the rejection of claim 1 under 35 USC 102 be withdrawn.

Claim 8 has been amended to recite that the network element includes “a plurality of ripeness indicators, each of the ripeness indicators being associated with one or more of the counters, each of the ripeness indicators being indicative of a fullness level of the one or more counters with which it is associated and indicating that the fullness level of the one or more counters has exceeded a particular level.” Claim 8 has further been amended to recite that the network element includes “control logic configured to harvest information from the one or more counters associated with a ripeness indicator once that ripeness indicator has been set.”

Sumida teaches that expiration of a timer will cause a counter to be read. This is just like what applicants describe as prior art in the background. (See specification at page 2, lines 1-3). Expiration of a timer does not have any indication of the fullness level of the counter. Accordingly, the amendment to claim 8 clarifies that the ripeness indicators are associated with

the fullness level of the counters, and that the control logic harvests information from the counters once the ripeness indicators are set. Accordingly, in view of these amendments, applicants respectfully submit that claim 8 is not anticipated by Sumida. Withdrawal of the rejection is therefore respectfully requested.

Rejections under 35 USC 103

Claim 10 was rejected under 35 USC 103 as unpatentable over Sumida in view of Ching (U.S. Patent No. 4,095,052); claim 11 was rejected under 35 USC 103 as unpatentable over Sumida in view of Obremski (U.S. Patent No. 6,388,930); and claim 14 was rejected under 35 USC 103 as unpatentable over Sumida in view of Patra (U.S. Patent No. 6,816,489). These claims depend from claim 8 and, accordingly, are believed patentable for the reasons set forth above.

Claims 12 and 13

Claims 12 and 13 were not addressed on the merits in the Office Action. Accordingly, if the Examiner believes that rejection of these claims under 35 USC 102 or 103 is required, applicants respectfully request that the Examiner not make the next Office Action final so that applicants have an opportunity to address the rejection of these claims for the first time in a subsequent response.

Conclusion

Applicants respectfully submit that the application is in condition for allowance and an action to this effect is respectfully requested. If there are any questions or concerns regarding the amendments or these remarks, the Examiner is requested to telephone the undersigned at the telephone number listed below.

If any fees are due in connection with this filing, the Commissioner is hereby authorized to charge payment of the fees associated with this communication or credit any overpayment to Deposit Account No. 502246 (Ref: NN-16128).

Respectfully Submitted

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